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CLAIMS

1. A method of guiding a user along a target path, comprising the steps of:
 - (a) determining the position of the user relative to the target path;
 - 5 (b) determining a location at which to position a virtual audio beacon such that it lies in a direction at least approximating the direction of the target path onward from the user's current position; and
 - (c) rendering, through audio output devices carried by the user, an audio beacon at the location determined in step (b).
- 10 2. A method according to claim 1, wherein the said location of the audio beacon is changed each time the user approaches or arrives at the location whereby the audio beacon appears to move stepwise ahead of the user as the user progresses along the target path.
- 15 3. A method according to claim 2, wherein each successive location of said audio beacon is determined by determining a segment onward from the user's current position of a piecewise linear approximation to said target path, and setting said location at or relative to the end of this segment.
- 20 4. A method according to claim 1, wherein step (b) involves effecting at least a partial piecewise linear approximation of the target path and determining said location from which the audio beacon appear to emanate at or relative to the end of a segment of that approximation on or closest to which the user is currently positioned.
- 25 5. A method according to claim 1, wherein steps (a) and (b) are repeatedly continually with the location associated with the audio beacon being changed to appear to be at a substantially constant distance ahead of the user as they move along the target path at least over a substantial portion of the latter.
- 30 6. A method according to claim 1, wherein in step (b) one or more further locations are determined at which one or more further audio beacons are rendered in step (c) through said audio devices, the further location or locations being such that the audio beacons

together form a succession of beacons with each beacon being successively further down said target path and the or each said further beacon serving to indicate a direction to be followed from a preceding said beacon.

- 5 7. A method according to claim 6, wherein step (b) involves effecting at least a partial piecewise linear approximation of the target path and determining the locations from which the audio beacons appear to emanate at or relative to the end of respective successive segments of said approximation.
- 10 8. A method according to claim 6, wherein as the user approaches or arrives at the first audio beacon in said succession that beacon is removed, a new further beacon being added to the end of succession in time proximity to the removal of the first beacon in said succession, this removal and addition of audio beacons being repeated as the user moves along the target path.
- 15 9. A method according to claim 6, wherein an audible characteristic of said audio beacons is varied between beacons to indicate the order in which they occur along said path.
10. A method according to claim 9, wherein the audio beacons sound in the order they
- 20 occur in said succession and in a cyclic manner.
11. A method according to claim 1, wherein said location is determined taking into account potential obstructions whereby no such obstructions lie between the user and the audio beacon.
- 25 12. An arrangement for guiding a user along a target path, the arrangement comprising:
- user-location determining means for determining the position of the user relative to the target path;
 - beacon-location determining means for determining a location at which to position a
- 30 virtual audio beacon such that it lies in a direction at least approximating the direction of the target path onward from the user's current position; and

- audio-beacon means comprising audio output devices carried by the user for rendering a virtual audio beacon at the location determined by the beacon-location determining means.

5 13. An arrangement according to claim 12, wherein the beacon-location determining means is arranged to change the said location from which the audio beacon appears to emanate each time the user approaches or arrives at the location whereby the audio beacon appears to move stepwise ahead of the user as the user progresses along the target path.

10 14. An arrangement according to claim 13, wherein the beacon-location determining means is arranged to determine each successive location of said audio beacon by determining a segment onward from the user's current position of a piecewise linear approximation to said target path, and setting said location at or relative to the end of this segment.

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15. An arrangement according to claim 12, wherein the beacon-location determining means is arranged to effect at least a partial piecewise linear approximation of the target path and to determine said location from which the audio beacon is to appear to emanate at or relative to the end of a segment of that approximation on or closest to which the user is
20 currently positioned.

16. An arrangement according to claim 12, wherein the user-location determining means and the beacon-location determining means are arranged to carry out their functioning repeatedly with the location associated with the audio beacon being changed to appear to
25 be at a substantially constant distance ahead of the user as they move along the target path at least over a substantial portion of the latter.

17. An arrangement according to claim 12, wherein the beacon-location determining means is arranged to determine respective further locations at which one or more further
30 audio beacons are to be rendered through said audio devices such that the audio beacons together form a succession of beacons with each beacon being successively further down

said target path and the or each said further beacon serving to indicate a direction to be followed from a preceding said beacon.

18. An arrangement according to claim 17, wherein the beacon-location determining
5 means is arranged to effect at least a partial piecewise linear approximation of the target path and to determine the locations from which the audio beacons are to appear to emanate at or relative to the end of respective successive segments of said approximation.

19. An arrangement according to claim 17, wherein the beacon-location determining
10 means is so arranged that as the user approaches or arrives at the first audio beacon in said succession that beacon is removed, the beacon-location determining means being operative to add a new further beacon to the end of succession in time proximity to the removal of the first beacon in said succession, and the beacon-location determining means being further operative to effect this removal and addition of audio beacons repeatedly as the user
15 moves along the target path.

20. An arrangement according to any one of claims 17, wherein the audio-beacon means
20 is arranged to cause an audible characteristic of said audio beacons to differ between beacons to indicate the order in which they occur along said path.

21. An arrangement according to claim 20, wherein the audio-beacon means is arranged
to cause the audio beacons to sound in the order they occur in said succession and in a cyclic manner.

22. An arrangement according to any one of claims 12, wherein the beacon-location
25 determining means is arranged to determine said location taking into account potential obstructions whereby no such obstructions lie between the user and the audio beacon.

23. A method of guiding a user along a target path, comprising the steps of:
30 (a) determining the position of the user relative to the target path;
(b) determining a location at which to position a virtual audio beacon such that it lies in a direction at least approximating the direction of the target path onward from the user's

current position, this determination involving effecting at least a partial piecewise linear approximation of the target path and determining the said location for the audio beacon at or relative to the end of a segment of that approximation on or closest to which the user is currently positioned; and

- 5 (c) rendering the audio beacon at the location determined in step (b) through audio output devices carried by the user.

24. A method according to claim 23, wherein the said location for the audio beacon is changed each time the user approaches or arrives at the location whereby the audio beacon
10 appears to move stepwise ahead of the user as the user progresses along the target path.

25. A method of guiding a user along a target path, comprising the steps of:

- (a) determining the position of the user relative to the target path;
(b) determining locations at which to position multiple virtual audio beacons such that the
15 audio beacons together form a succession of beacons with each beacon being successively further down said target path onward from the user; and
(c) rendering audio beacons at the locations determined in step (b) through audio output devices carried by the user.

20 26. A method according to claim 25, wherein as the user approaches or arrives at the first audio beacon in said succession that beacon is removed, a new further beacon being added to the end of succession in time proximity to the removal of the first beacon in said succession, this removal and addition of audio beacons being repeated as the user moves along the target path.

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27. A method according to claim 25, wherein an audible characteristic of said audio beacons is varied between beacons to indicate the order in which they occur along said path.

30 28. A method according to claim 26, wherein the audio beacons sound in the order they occur in said succession and in a cyclic manner.

29. A method of guiding a user along a target path, comprising the steps of:

- (a) determining the position of the user relative to the target path;
- (b) determining a location at which to position a virtual audio beacon such that it lies in a direction at least approximating the direction of the target path onward from the user's current position, this determination taking into account potential obstructions whereby no such obstructions lie between the user and the audio beacon; and
- (c) rendering the audio beacon at the location determined in step (b) through audio output devices carried by the user.